

**EVALUATION OF DOPPLER CEREBROPLACENTAL RATIO AS A
PREDICTOR OF ADVERSE PERINATAL OUTCOME IN
HIGH RISK PREGNANCY.**

AIM :

To determine the screening efficacy of Doppler cerebroplacental ratio, Pulsatility index of umbilical artery, Pulsatility index of middle cerebral artery as a predictor of adverse perinatal outcome in high risk pregnancy.

METHOD:

Prospective observational study was conducted in Institute of obstetric and gynaecology from September 2015 to august 2016 . It included 210 antenatal patients with high risk pregnancy between 32 and 40 weeks from obstetric OP. They were subjected to thorough history taking , clinical examination and Doppler study . PI UA ,PI MCA , Cerebroplacental ratio determined .They were under serial Doppler surveillance until delivery. Values obtained just a week prior to delivery were taken for calculation .Patients were delivered according to the protocol of the institution . Maternal and perinatal outcome were compared in terms of modified biophysical profile , fetal heart tracings during labour , mode of onset of labour , meconium staining of liquor during labour , mode of delivery , birth weight , apgar score , neonatal complications and neonatal death.

RESULTS:

The mean age of the study group was 24.9. GHT and preeclampsia constituted nearly 40.9 % of the patients included in our study. The mean CPR 1.05 with a standard deviation 0.248 had statistically significant (p value 0.002) association with hypertension complicating pregnancy. There was no statistical significant mean of

difference between CPR in those with anaemia ,diabetes in pregnancy , RHD , hypothyroid , BOH and those without such complications. The mean gestational age of delivery was 35 weeks. Cerebroplacental ratio ≤ 1.08 had a sensitivity of 67.1% and specificity of 98 % in predicting neonatal complications which was statistically significant with a p value < 0.0001 ,whereas the sensitivity specificity of PI UA and PI MCA were 55 % , 85 % and 68 % ,91% respectively. Cerebroplacental ratio with a mean of 0.8775 and a standard deviation of 0.09223 had a significant mean of association with neonatal death with a p value 0.016. Kaplan meier survival propability curve showed decreased survival probability of the fetuses with cerebroplacental ratio < 0.99 with a significant p value 0.02. 98 out of 105 cases of CPR ≤ 1.08 were induced . Totally there were 91 LSCS in our group .Out of which 48 with CPR ≤ 1.08 had Fetal Distress as Indication .Cerebroplacental ratio with a mean 1.08 has significant associated mean of difference with those with operative deliveries (p 0.002) , preterm deliveries (p 0.000) , IUGR (p 0.000) .CPR shows good correlation and logistic regression with birth weight and apgar with p value 0.001 and 0.001. There is no statistical significant mean of difference between CPR and non reassuring intrapartum CTG , meconium staining of liquor and amniotic fluid index.

KEY WORDS: Cerebroplacental ratio (CPR) , pulsatility index of umbilical artery and middle cerebral artery